[guaranteed] temperature range of said nonvolatile semiconductor storage device and further comprising a relaxation type ferroelectric thin film.

8. (Once Amended) The nonvolatile semiconductor storage device according to claim 6, wherein:

said dielectric thin film [having the] has a temperature dependency in which the dielectric constant decreases [accompanying the] an increase in temperature in the operational [guaranteed] temperature range of said nonvolatile semiconductor storage device [comprises the relaxation type ferroelectric thin film].

Please add the following new claim:

20. (Newly Added) A nonvolatile semiconductor storage device comprising:

a complex capacitor having a stack of first and second capacitor members wherein the first capacitor has a ferroelectric thin film between electrodes and the second capacitor has a dielectric thin film between electrodes.

REMARKS

Applicant thanks the Examiner for acknowledging receipt of Applicant's foreign priority documents that have been submitted pursuant to 35 U.S.C. §119. Applicant respectfully requests reconsideration of the claim rejections set forth by the Examiner under 35 U.S.C. §112, first paragraph.

In item 4 of the outstanding Office Action for this application, the Examiner has rejected claims 1 and 5-15 under 35 U.S.C. §112, first paragraph as being based on a disclosure which is allegedly not enabling. In particular, the Examiner has asserted that the structure of a capacitor with the arrangement of two different ferroelectric layers and the

capacitor electrodes as described in Figure 5 is critical or essential to the practice of the invention but is not included in the cited claims and thus not enabled by the disclosure. The Examiner has asserted that without the arrangement of two different ferroelectric layers and capacitor electrodes as illustrated in Figure 5, the nonvolatile semiconductor device cannot have characteristics such as specified in claim 1.

Applicant respectfully requests reconsideration of these rejections. In support thereof, Applicant has modified the claim language to more specifically describe the inventions in order to overcome the rejections set forth by the Examiner. Applicant notes that several embodiments are described within the specification and that only the third embodiment described with respect to Figure 5 includes a compound capacitor with the multiple layers described therein.

Actually, in accordance with the first embodiment of the invention, Applicant has disclosed an improved ferroelectric device such that through proper selection of the material for the ferroelectric thin film, it is possible to minimize changes in the operational guaranteed temperature of the electric field and thus the design margin of the nonvolatile storage element using the thin film is made smaller to achieve the ferroelectric nonvolatile storage device having high integration density. This is specifically described on page 6 at lines 21-29 prior to the description of the first embodiment. In the following pages, additional description is included which identifies the appropriate materials for selection in order to achieve the desired improved results. Page 9 discloses the specific materials that are claimed for the ferroelectric capacitor as described in amended claim 1.

Applicant respectfully submits that the disclosure at pages 6-9 more than adequately describes the invention to enable one skilled in the art to make and use the improved ferroelectric nonvolatile semiconductor storage device as claimed in claim 1. Accordingly, Applicant respectfully requests the Examiner now withdraw these rejections. Additionally,

Applicant has amended the remaining claims in order to further underscore the differences between the prior art and the claimed invention.

In light of the foregoing, Applicant submits that all claims now stand in condition for allowance.

Respectfully submitted,

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CLEAN VERSION OF CLAIMS

1. A nonvolatile semiconductor storage device provided with a capacitor using a ferroelectric thin film, wherein:

the ferroelectric thin film is comprised of a material selected from the group consisting of:

$LiNbO_3$, $La_2Ti_2O_7$, $Nd_2Ti_2O_7$, $Sr_2Nb_2O_7$, Bi_2WO_6, Bi_3TiNbO_9 or Bi_3TiTaO_9.

5. A nonvolatile semiconductor storage device comprising:

a complex capacitor comprised of a dielectric thin film having a temperature dependency, in which a dielectric constant of the capacitor decreases an increase in temperature in an operational temperature range of said nonvolatile semiconductor storage device, and a ferroelectric capacitor provided having a ferroelectric thin film.

6. The nonvolatile semiconductor storage device according to claim 5, wherein:

said complex capacitor comprises a complex thin film having a ferroelectric property rendered by a compounding action of the dielectric thin film having a temperature dependency wherein the dielectric constant decreases accompanying an increase in temperature in the operational temperature range of said nonvolatile semiconductor storage device, the ferroelectric thin film exhibiting the ferroelectric property in the operational temperature range, and a conductive thin film held between said dielectric thin film and said ferroelectric thin film.

7. The nonvolatile semiconductor storage device according to claim 5, wherein:

said dielectric thin film has the temperature dependency in which the dielectric constant decreases accompanying an increase in temperature in the operational temperature

range of said nonvolatile semiconductor storage device and further comprising a relaxation type ferroelectric thin film.

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8. The nonvolatile semiconductor storage device according to claim 6, wherein:

said dielectric thin film has a temperature dependency in which the dielectric constant decreases an increase in temperature in the operational temperature range of said nonvolatile semiconductor storage device.

20. A nonvolatile semiconductor storage device comprising:

a complex capacitor having a stack of first and second capacitor members wherein the first capacitor has a ferroelectric thin film between electrodes and the second capacitor has a dielectric thin film between electrodes.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail on April 23, 2003 in an envelope addressed to:

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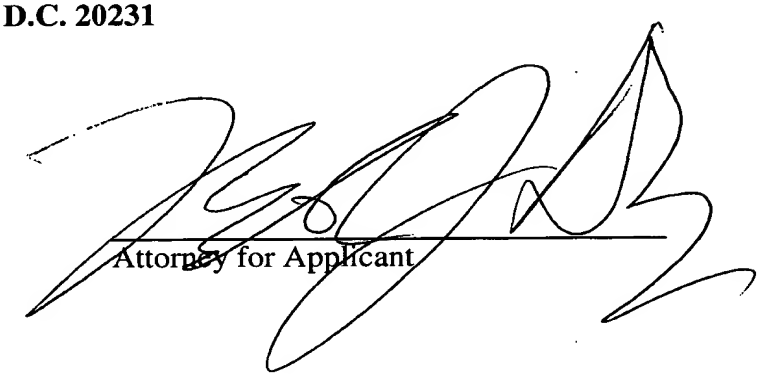

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